Potential of stem-cell-based therapies for heart disease.

Journal: Nature

Publication Year: 2006

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PubMed link: 16810246

Funding Grants: Gladstone CIRM Scholar Program

Public Summary:

Scientific Abstract:
The use of stem cells to generate replacement cells for damaged heart muscle, valves, vessels and conduction cells holds great potential. Recent identification of multipotent progenitor cells in the heart and improved understanding of developmental processes relevant to pluripotent embryonic stem cells may facilitate the generation of specific types of cell that can be used to treat human heart disease. Secreted factors from circulating progenitor cells that localize to sites of damage may also be useful for tissue protection or neovascularization. The exciting discoveries in basic science will require rigorous testing in animal models to determine those most worthy of future clinical trials.